a candle in a dark room. The reflexes resulting in orientation are similar to the scratch reflexes in the dog. How it is that they have come to be specifically correlated in character and extent with the localization of the stimulus in the eye is not known. They are instinctive in nature since they are largely independent of experience in the individual in which they occur and their origin is doubtless the same as that of other instinctive reactions.

A full description of photic orientation in Eristalis and Erax will be published shortly. This paper will contain an extensive bibliography including all of the literature referred to above.

HESPEROPITHECUS, THE FIRST ANTHROPOID PRIMATE FOUND IN AMERICA

BY HENRY FAIRFIELD OSBORN

AMERICAN MUSEUM OF NATIONAL HISTORY, NEW YORK

Read before the Academy, April 25, 1922

This communication to the NATIONAL ACADEMY, Tuesday April 25, 1922, was simultaneous with its publication in the American Museum *novitates.** A single small water-worn tooth, 10.5 mm. by 11 mm. in crown diameter, signalizes the arrival of a member of the family of anthropoid Primates in North America in Middle Pliocene time. The discovery is due to Harold J. Cook, consulting geologist, Agate, Nebraska.

The anthropoid Primate characters of the tooth are confirmed by another water-worn third upper molar previously found by William D. Matthew in the same beds but not described because it was not sufficiently distinctive. These two teeth establish the existence in the Pliocene period of a new and independent type of anthropoid, intermediate in the structure of its grinding teeth between the anthropoid ape and the human type. The animal is certainly a new genus of anthropoid ape, probably an animal which wandered over from Europe and Asia with the large south Asiatic element that has recently been discovered in our Pliocene fauna by Merriam, Gidley, and others. The generic name *Hesperopithecus* signifies *Pithecus* of the Western Hemisphere; its specific name *haroldcookii* is assigned in honor of the discoverer. The tooth actually resembles the human type more closely than it does any known anthropoid ape type; consequently it would be misleading to speak of this *Hesperopithecus* at present as like the known anthropoid apes; it is a new and independent type of Primate and we must seek more material before we can determine

its relationships. It has been suggested humorously that the animal should be named *Bryopithecus* after the most distinguished Primate which the State of Nebraska has thus far produced. It is certainly singular that this discovery is announced within six weeks of the day (March 5, 1922) that the author advised William Jennings Bryan to consult a certain passage in the Book of Job, "Speak to the earth and it shall teach thee," and it is a remarkable coincidence that the first earth to speak on this subject is the sandy earth of the Middle Pliocene Snake Creek deposits of western Nebraska.

The geologic age of these two Primate teeth is now believed to be the same as that of Thousand Creek, Nevada, and Rattlesnake, Oregon, among the fauna of which *Pliohippus* is very abundant and varied; it also contains *Ilingoceras* and other strepsicerine antelopes of Asiatic affinity; it is the last American fauna in which occurred the rhinoceros, preceding the Blanco fauna in which the Asiatic brevirostrine *M. mirificus* first occurs.

* Osborn, Henry Fairfield, "*Hesperopithecus*, the First Anthropoid Primate Found in America," *American Museum Novitates*, No. 37, April 25, 1922.

RECENT DISCOVERIES ON THE ANTIQUITY OF MAN

BY HENRY FAIRFIELD OSBORN AND CHESTER A. REEDS

AMERICAN MUSEUM OF NATURAL HISTORY, NEW YORK

Read before the Academy, April 25, 1922

This paper is an abstract of two lines of research recently undertaken by the authors which will be published under the titles: *Old and New Standards of Pleistocene Division in Relation to the Prehistory of Man in Europe*,* *Pliocene (Tertiary) and Early Pleistocene (Quaternary) Mammalia of East Anglia, Great Britain, in Relation to the Appearance of Man*.**

At the April, 1921, meeting of the National Academy, Dr. Osborn ventured the prediction that a large-brained type of man would be found in the Pliocene. He was not aware that such a discovery had actually been made in the Upper Pliocene Red Crag deposits near Ipswich, England, by J. Reid Moir; in fact, Mr. Moir's discovery of Red Crag and of sub-Red Crag man was not accepted in England, and it was not until an unmistakable human industrial level was found at Foxhall, near Ipswich, in the summer of 1921, that this locality was visited by the French archaeologist Breuil, who announced this important discovery at the Archaeological Congress at Liége, in August, 1921. Dr. Osborn immediately planned